REMARKS

Claims 1-6, 8, 10, 12, 14, 15, and 17-20 have been finally rejected under 35 U.S.C. §102(e), and Claims 7, 9, 11, 13 and 16 have been finally rejected under 35 U.S.C. § 103(a) as unpatentable. Applicant respectfully requests entry of the foregoing amendments to Claims 1 and 10. Support for the amendments is present in the application as filed. No new matter has been added by any of the foregoing amendments to the claims. Applicant further requests reconsideration and withdrawal of all outstanding rejections in view of these amendments and the remarks that follow.

Claim Rejections under 35 USC §102

The Examiner has rejected Claims 1-6, 8, 10, 12, 14, 15, and 17-20 under 35 U.S.C. § 102(e) as anticipated by Das *et al.* ("Das"), U.S. Patent No. 6,333,631. The Applicant respectfully traverses these rejections.

Das describes a movable sensor apparatus where the supporting extension is limited to left and right panning and up and down tilting movement of its extension arms. The operation of the Das device is explained as follows:

> "In operation, the mine detector is moved cyclically in a left and right, back and forth panning or sweeping action across a scanned region R. Thus, one lateral side of the mine detector 3 alternates between being a leading and trailing edge." (Col. 5, Ln. 51-53).

For the left and right or back and forth movement of Das to occur, the sensor must rotate only partially about its axis of rotation, not fully about the axis. "The mine detector is panned side-to-side at the end of the arm 2 along an arcuate path R." (Col. 4, Ln. 19-20) (emphasis added).

Das is different from the present invention. In particular, the present invention allows full "360° of rotational movement." (Specification, Page 7, Ln. 19). Das does not disclose, teach, or otherwise suggest a multiple-axis sensor apparatus in which the sensor rotates fully about its axis of rotation. To emphasize this difference, Claims 1 and 10 have been amended to stress that the supporting extensions are fully, not partially, rotatable around the relevant axis. A sensor that rotates fully about an axis does not exhibit left and right or back and forth movement as seen in Das, and for this reason Das fails to anticipate full rotation about the relevant axis.

"To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter." *PPG Industries, Inc. v. Guardian Industries Corp.*, 75 F.3d 1558, 1566, 37 U.S.P.Q.2d 1618, 1624 (Fed. Cir. 1996). Applicant respectfully submits that Das neither discloses nor enables the fully rotatable feature present in each of the asserted claims as now amended. Accordingly, Applicant respectfully requests the Examiner to enter the amendments and withdraw the § 102 rejections to Claims 1 and 10. Claims 1 and 10 are now believed to be in condition for allowance.

Claims 2-6, and 8 depend from Claim 1, and Claim 7 further depends from Claim 6. In light of the amendment to Claim 1, which Applicant believes overcomes the Examiner's §102(e) rejection of Claim 1, Applicant respectfully submits that Claims 2-6, and 8 are all similarly in condition for allowance. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of Claims 2-6, and 8, under §102(e).

Claims 12, 14, 15, and 17-20 all depend from Claim 10. In light of the amendment to Claim 10, which Applicant believes overcomes the Examiner's §102(e) rejection of Claim 10, Applicant respectfully submits that Claims 12, 14, 15, and 17-20 are all similarly in condition for allowance. Accordingly, Applicant respectfully requests that Examiner withdraw the rejection of Claims 12, 14, 15, and 17-20 under §102(e).

Claim Rejections under 35 USC §103

The Examiner has rejected Claims 7, 9, 11, 13 and 16 under 35 U.S.C. § 103(a) as unpatentable over Das *et al.* ("Das"), U.S. Patent No. 6,333,631. The Applicant respectfully traverses these rejections.

As discussed above, Das does not suggest rotation fully about an axis, but instead discloses rotation only partially about an axis. For this reason, and in light of the amendments to Claims 1 and 10, Applicant respectfully submits that Claims 7, 9, 11, 13, and 16 cannot be obvious in view of Das. "In appropriate circumstances, a single prior art reference can render a claim obvious. ... However, there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion." *Sibia Neurosciences, Inc. v. Cadus Pharmaceutical Corp.*, 225 F.3d 1349, 1356, 55 U.S.P.Q.2d 1927, 1931 (Fed. Cir. 2000). There has been no such showing in the present case. Accordingly, in light of the amendments to Claims 1 and 10 from which Claims 7, 9, 11, 13, and

16 depend, Applicant respectfully requests the Examiner to withdraw the §103 rejections of Claims 7, 9, 11, 13, and 16 over Das.

Attached hereto is a current version of the claims showing all amendments to date. In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application to issue.

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Respectfully submitted,

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Version of Claims Showing All Amendments to Date

1. (Currently amended) A movable sensor apparatus, comprising:

a movable housing;

at least one supporting extension wherein each said supporting extension is rotatably affixed to said housing, being fully rotatable about a first axis;

at least one sensor that is rotatably affixed to one of said at least one supporting extension, being fully rotatable about a second axis different from said first axis;

a linear propulsion mechanism attached to said housing whereby said housing may be moved over the ground;

a triggering unit electrically coupled to each of said at least one sensor and capable of separately activating each of said at least one sensor; and,

a sampling unit electrically coupled to each of said at least one sensor and capable of receiving output from each of said at least one sensor.

2. (Previously Presented) The movable sensor apparatus of Claim 1 wherein said sensor is a magnetometer.

3. (Previously Presented) The movable sensor apparatus of Claim 1 wherein said sensor is an optical camera.

4. (Previously Presented) The movable sensor apparatus of Claim 1 wherein said sensor is an electromagnetic induction sensor.

5. (Previously Presented) The movable sensor apparatus of Claim 1 wherein said sensor is a sonar sensor.

6. (Previously Presented) The movable sensor apparatus of Claim 1 wherein each said supporting extension rotates at a constant rate of rotation.

7. (Previously Presented) The movable sensor apparatus of Claim 6 wherein each said sensor rotates at a constant rate of rotation that is equal in magnitude and opposite in direction to said constant rate of rotation of each said supporting extension.

8. (Previously Presented) The movable sensor apparatus of Claim 1 further comprising a position indicator coupled to at least one said supporting extension and said linear propulsion mechanism.

9. (Previously Presented) The movable sensor apparatus of Claim 8 further comprising a data storage device for storing sensor data collected from each of said at least one sensor and position data collected from said position indicator.

10. (Currently amended) A movable sensor apparatus, comprising:

a movable housing;

a first supporting extension rotatably affixed to said housing, being fully rotatable about a first axis;

a second supporting extension rotatably affixed to said housing, being fully rotatable about said first axis;

a first sensor that is rotatably affixed to said first supporting extension, being fully rotatable about a second axis different from said first axis;

a second sensor that is rotatably affixed to said second supporting extension, being fully rotatable about a third axis different from said first axis and said second axis;

a linear propulsion mechanism attached to said housing whereby said housing may be moved over the ground;

a triggering unit electrically coupled to said first sensor and said second sensor and capable of separately activating said first sensor and said second sensor; and,

a sampling unit electrically coupled to said first sensor and said second sensor and capable of receiving output from said first sensor and said second sensor.

11. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a radar sensor and said second sensor is a magnetometer.

12. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a radar sensor and said second sensor is an optical camera.

13. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a radar sensor and said second sensor is an electromagnetic induction sensor.

14. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a radar sensor and said second sensor is a sonar sensor.

15. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a magnetometer and said second sensor is an optical camera.

16. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a magnetometer and said second sensor is an electromagnetic induction sensor.

17. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is a magnetometer and said second sensor is a sonar sensor.

18. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is an optical camera and said second sensor is an electromagnetic induction sensor.

19. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is an optical camera and said second sensor is a sonar sensor.

20. (Previously presented) The movable sensor apparatus of Claim 10 wherein said first sensor is an electromagnetic induction sensor and said second sensor is a sonar sensor.